DLZ Ohio, Inc. * 6121 Huntley Road, Columbus, Ohio 43229 * (614) 888-0040

Client: ms consultants | *Project:* FRA-70-8.93 | *Job No.* 0221-1004.01

LOG OF: Boring B-034-0-08 | *Location:* Sta. 203+85.26, 56.62' LT., BL I-70 WB | *Date Drilled:* 8/7/2008 to 8/14/2008

WATER OBSERVATIONS:
Water seepage at: 5.5', 10.5', 20.5', 25.5', 62.0'
Water level at completion: 43.3' (measured inside casing)
At beginning of shift: 8/8 28.5, BOH 45.0'

FIELD NOTES: *Advanced boring using 4.0" diameter flush joint casing.*

Depth (ft)	Elev. (ft)	Blows per 6"	Recovery	Sample No. Drive	Sample No. Press / Core	Hand Penetrometer (tsf)	DESCRIPTION	Graphic Log	GRADATION % Aggregate	% C. Sand	% M. Sand	% F. Sand	% Silt	% Clay	STANDARD PENETRATION (N60) / Natural Moisture Content, % - / Blows per foot - / Non-Plastic - NP
	651.5						Very dense gray GRAVEL WITH SAND (A-1-b), little to some silt; wet.								
							@ 100.0'-105.0', possible cobbles.								
105		37 50/5	6	30											50+
															NP
110		30 33 33	18	31					25	47	---	16	--12--		69
		23 42 50/3	12	32											50+
115.0 115	636.5														
115.5	636.0	50/3	3	33			Severely weathered gray SHALE.								
		Core 60"	Rec 39"	RQD 55%	R-1		Shale, dark gray, highly to severely weathered, weak, thinly laminated, fissile, calcareous, pyritic, jointed, fractured, tight, slightly rough, RQD 69%, Loss 12%. Contains occasional large (up to 1" diameter) pyritic inclusion. @ 116.6'-117.0', encountered thin limestone bed. @ 117.5'-119.2', 121.1'-121.7', possible lost recovery.								50+
120															
		Core 60"	Rec 53"	RQD 77%	R-2		@ 121.7', moderately fractured, highly weathered.								
125	626.5														